

U.S. Patent Application Serial No. 10/708,737  
Response filed September 29, 2005  
Reply to OA dated June 30, 2005

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1       Claim 1 (original): A continuous vacuum carburizing furnace comprising: a heating chamber  
2       for heating a workpiece under a atmospheric pressure; a first conditioning chamber in which the  
3       pressure is reduced from the atmospheric pressure after the receipt of the workpiece from the heating  
4       chamber; a carburizing/diffusing chamber receiving plural workpieces from the first conditioning  
5       chamber and conducting plural cycles of carburizing and diffusing processes under the reduced  
6       pressure; a second conditioning chamber in which the reduced pressure is returned to the  
7       atmospheric pressure after the receipt of the workpiece treated in the carburizing/diffusing chamber;  
8       and a cooling chamber for cooling the workpiece introduced from the second conditioning chamber  
9       under the atmospheric pressure, the furnace further comprising a door member disposed between a  
10      respective adjoining pair of the above chambers, the door member opened/closed only when the  
11      workpiece is transported from one chamber to another.

1       Claim 2 (currently amended): The continuous vacuum carburizing furnace as claimed in  
2       Claim 1, wherein said door member is disposed between said heating chamber and said first  
3       conditioning chamber, wherein said workpiece is subjected to carburization and diffusion in said first

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4 conditioning chamber under the reduced pressure.

1           Claim 3 (currently amended): The continuous vacuum carburizing furnace as claimed in  
2           Claim 1, wherein said door member is disposed between said first conditioning chamber and said  
3           carburizing/diffusing chamber, wherein said workpiece is subjected to carburization and diffusion  
4           in said second conditioning chamber under the reduced pressure.

1           Claim 4 (currently amended): The continuous vacuum carburizing furnace as claimed in  
2           Claim 1, wherein said door member is disposed between said carburizing/diffusing chamber and said  
3           second conditioning chamber, wherein said workpiece is of a steel material.

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